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Behavioral Economics for All: From Nudging to Leadership

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ABSTRACT: Behavioral economics is an innovative applied science. In the 1950s economic rational choice models came under scrutiny. A theoretical critique emerged that not all human beings strive for efficiency and rationality all the time. Behavioral economics first drew attention to deviations from rationality and discussed the non-applicability of rational choice models for depicting the actual behavior of humans. During the 1970s, Amartya Sen formalized the rational choice critique and published powerful examples of how economics needs a reality check and backtesting of its core axioms of rationality, efficiency and time consistency for actual real-world relevancy and external validity of the standard rational choice claims. By 1979, the two psychologists Daniel Kahneman and Amos Tversky presented a line of laboratory experiments at universities that proved the rational choice theory to be inaccurate to explain the real-world decision-making patterns of individuals. The following behavioral economics revolution rewrote economics for accuracy and predictability for actual human day-to-day choices and behavior. Sociologists, political scientists, psychologists created a line of research to describe how individuals actually decide during the first decade of the 2000s. Behavioral insights were then used to find ways how to 'nudge' individuals, communities and leaders to help others make better choices in different domains, for instance such as finance, marketing, health and well-being. Around the world, governmental officials and governance experts adopted behavioral nudges and winks to create better choice architectures and decision-making patterns. This paper describes the history of behavioral economics with attention to North American roots and European interpretations in order to then prospect future trends in behavioral economics. First, given the enormous popularity behavioral economics has enjoyed in the most recent decades, a general knowledge has formed about behavioral nudges. Libertarian paternalism is – by now – limited when it comes to implicitly tricking people into making choices based on well-known insights. A common body of knowledge on behavioral aspects of choice patterns may lead to reactance if people notice manipulation. The general population should therefore be trained to make self-empowered choices that meet their individual principles, needs and wants based on their behavioral expertise. Behavioral economists should move from manipulating nudges to educating trainings of the layperson. Second, the field of behavioral sciences has experienced a deep replication crisis given major data cheating scandals and contemporary fraud allegations. General oversight mechanism between co-authors, backtesting of effects for validity and their general applicability is therefore warranted. he general population should be trained to be critical of behavioral insights presented to them and be encouraged by behavioral economists to feedback on the potential non-applicability of p-hacked results. Third, online searchplace distortion of behavioral economics results has become a sad reality for young behavioral economists in the strategic search engine results manipulation through Search Engine Disoptimization (SEDO). This implicit internet harassment calls for a democratization of information and whole-rounded inclusion of thoughts online. Behavioral economists should raise awareness for this negative competitive behavior and work together with global governance institutions, regulatory bodies but also industry professionals to curb negative internet search engine manipulation and empower the upcoming generation of behavioral economists to speak up when this is happening. Professional bodies should be informed to help those whose career has been hit by competitive internet manipulation. All these trends are speculated to lead to a revamped behavioral economics revolution that demands for behavioral economics for all. The future of behavioral economics is believed to lie in self-empowered leadership, not manipulation. A democratization of behavioral economics information leading to a general knowledge basis on actual behavioral patterns will guide a self-empowered decision-making cadre within the general population. Search for true and credible behavioral insights can lift the entire field to a more helpful stage to become a standing guidepost for wise quality decision-making. The digital millennium calling for fair internet use will hopefully prosper an inclusive and diversified information on behavioral insights to be accessible, useful and meaningful for all.

KEYWORDS: Behavioral Economics, Behavioral Finance, Behavioral Insights, Behavioral Revolution, Decision Making, Democratization, Economics, Future Trends, Human Rights Online, Law, Law & Economics, Leadership, Public Policy, Search Engine Disoptimization, Searchplace Discrimination, Winks

Introduction

Behavioral economics is the study of economics with respect to real-world relevant choice patterns. The field of behavioral economics evolved out of a theoretical critique and mathematical formalization of social aspects of standard neoclassical economics. Laboratory and field experiments, as well as big data and online surveys have become hallmarks of behavioral methodology to imbue practicability and accuracy in economic descriptions of human choices. Behavioral insights use behavioral economics results in order to derive recommendations on how people can make better decisions. Behavioral economists thereby create a choice architecture that implicitly nudges and winks the general populace in a favorable way.

Historically, two behavioral schools have been formed in the United States and Europe. The schools differ in the perception of decision-making heuristics as mental shortcuts. The North American school sees these quick decisions as biases that behavioral economics should help people overcome or curb by a strategic manipulation of the environment and their choice settings. The European tradition rather argues for heuristics being an evolutionary-grown decision-making aid. Most recently replication crises have taken a toll on the credibility of behavioral economics studies. In the age of digitalization, behavioral economists appear to have turned against each other in competitive searchplace manipulation strategies.

This paper captures three contemporary trends in behavioral economics and an outlook on how the field may evolve in the future. The first expected change may occur due to the fact that behavioral economics has become a widespread applied field. Many of the surprising effects are by now well-known and biases are well-controlled in the field. This general knowledge of behavioral insights will likely drive people's reactance – in not responding according to the behavioral economics' plan *per se* to maintain decision-making autonomy – if catching libertarian paternalism manipulations of the environment.

With the widespread replication crisis shaking the grounds of behavioral economics, the time is ripe to rewin the audience by empowering individuals to make choices that fit their choice propensities and preferences. In this kind of democratization of decision-making, people are best advised to feel self-entitled and empowered to use known behavioral insights wisely for themselves to make preferred choices according to their individual needs and wants.

In the digital millennium, online searchplaces – like Google, Bing, Yahoo, Yandex… – have become prominent places to look for information. Online search engines by now also have become powerful market tools that determine careers. In the most recent upheaval about internet representation of behavioral economics, it apparent becomes that behavioral extensions in the virtual world are needed in order to cope with the impact of computer systems on human health and well-being. In future attention to online searchplace discrimination against behavioral economists, the field may find self-correcting mechanisms for those whose career has taken a hit unethically.

This paper is structured as follows: First, a snapshot of the history and evolvement of behavioral economics is given. Second, three trends are scrutinized in behavioral economics: The overall prominence of behavioral economics leading to widespread knowledge of nudges warrants to drop libertarian paternalism for self-empowered, individualized decision-making. Second, the ongoing replication crisis will likely change the field for oversight control among co-authors. Quality control via backtesting but also empowerment to self-scrutinize behavioral insights when being applied are future advancements that can help catch fraudulent and dishonest behavior faster and easier. Third, the ongoing searchplace distortion against behavioral economists in standard search engines will likely trigger awareness for destructive

manipulation of internet settings in 'rebel nudges' that have gone wild and have turned against their own community. The discussion concerns future advancement potential and limitations of the field. Overall, all these prospective changes will likely transform the field of behavioral sciences and the entire community of behavioral scientists into a better and more inclusive scientific spearhead.

Behavioral economics

History

Traditional economics was built on the foundations that all human beings constantly strive for efficiency and rationality. The most innovative revolution in the field of economics was the behavioral economics opening of choice architectures. In the 1950s a theoretical critique of standard neoclassical rational choice models started that first emphasized attention to deviations from rationality (Simon 1956; Simon & Bartel 1986). Early theoretical writings drew from real-world examples to prove the non-applicability of rational choice models for predicting the actual behavior of humans (Simon 1956; Simon & Bartel 1986).

During the 1970s, Amartya Sen (1971, 1977) formalized the rational choice critique mathematically. Publishing a line of powerful examples of how economics deviates from what actually happens in real-world settings emphasized the need for a reality check in economics. Backtesting of economic core axioms – such as rationality, efficiency and time consistency – for actual real-world relevancy was meant to improve the external validity of economic stylized models (Sen 1971, 1977). In subsequent work over decades, Amartya Sen debunked some of the major hallmarks of economic science assumptions, such as rational choice, independent decision making and constant maximization of utility (Sen 1993, 2002a, b).

By the late 1970s, the two psychologists Daniel Kahneman and Amos Tversky presented a line of university laboratory experiments that proved the rational choice theory to be inaccurate in explaining actual decision-making patterns of individuals (Kahneman & Tversky 1979). Standard neoclassical economics was dwarfed to be a stylized caricature of how people actually behave. The following 1980s and 1990s saw a revolution of behavioral aspects for economic sciences (Kahneman & Tversky 1983, 1992; Kahneman, Knetsch & Thaler 1991). First laboratory experiments at universities but later also field experiments became the norm to cartograph a new order by which humans are behaviorally-economic. Behavioral economics proved that people often strive for efficiency and economic ideals, but in reality, oftentimes muddle through a complex world and thereby take the best alternative at hand or oftentimes do not place a favorable choice at all (Kahneman & Tversky 2000).

Heuristics

In the first wave of behavioral economics, a multitude of heuristics were described as decision-making deviations from rationality. For instance, in times of heightened uncertainty and cognitive constraints, people were found to take-the-best in choosing the alternative based on the first cue that discriminates between a multitude of choices. Gaze describes gut reactions and focus on one task, which can lead people to quickly jump to conclusions without proper rational and elaborate decision-making.

People were also found to be highly susceptible to the environment, in which they operate. A scarcity effect was captured in the overestimation of value based on limited choices. Framing held that the way options are presented – in either a positive or a negative frame – could powerfully guide decisions. Dependence on unrelated external environmental factors was proven in a multitude of behavioral economics experiments and studies. Our choices heavily depend on our emotions and mood, but also the weather and external factors such as color, hygiene and overall sight. The primacy and recency effect describes that the first and last choice of a set of alternatives gets extra attention. Social aspects like status implicitly guide

our choices, likely based on comparisons with each other. Social norms and trust play a role in leading decisions unnoticingly as well, which accumulates to herd behavior that was shown to influence financial markets and therefore overall economic outcomes. Social proof is another way people infer the actions of others in a role model learning of behavior that transpires to everyday actions. Contagion of previous unrelated content bleeding into decisions is another environmental factor that influences behavioral patterns in the economy. Even minor changes in the environment, such as heat or color, can change decisions. Especially emotions, affects and overall moods can play an underestimated role in choices.

The closeness of information appears to determine events. For instance, unrelated dropping of numbers may lead to over- or underestimations according to the anchor that was set. If news events are more available, the likelihood of occurrence gets overrated. Representativeness in the repetitive exposure of cues to a typical representation triggers learning of attributes to often occur together. This learned bunding can lead to stereotypes. The negative effects of jumping to conclusions and assigning wrong attributes to the individual based on representativeness can be curbed by joint decision-making when placing two alternatives physically next to each other rather than evaluating them one by one. Familiarity further exacerbates given perceptions and representativeness learning. The more familiar one becomes with an object, the more entrenched the bundling of attitudes with the object becomes. Familiarity drives positive or negative attitudes. If familiarity pertains to the self, positive attributes tend to prevail. For instance, one seems to have a natural inclination towards those whose first name starts with the same letter as one's own first name. This familiarity effect gets stronger when people are exposed to cognitive load. The similarity heuristic also extends to objects that are the same as oneself. All these closeness heuristics are believed to underlie prototypes and stereotypes. Travels to places that have unfamiliar content but also situations that push one out of one's comfort zone are effective strategies to broaden one's horizon and lower negative consequences of stereotyping, such as tunnel visions.

One's personal history influences choices. Effort heightens the perception of value. The harder one works for an accomplishment, the more it is valued. The fluency of contents to be remembered solidifies their presence in the options range. Recognition when contents can be accessed through memories also enhances the perception of options being existent. Simulation increases the likelihood estimation of events based on how easily they can be pictured mentally. Previous exposure to these events will impact simulation likelihoods positively. The endowment effect outlines that if one acquires an object, the value perception increases. This is even the case for windfall gifts one did not want or anticipate. Sunk costs speak to people trying to reclaim lost values and thereby oftentimes become irrationally stuck in repetitive patterns. Casinos live off sunk costs as people gaming tend to try to reclaim lost values and continue playing beyond their means or initial plans. Preference reversal occurs when people are planning rationally for the future but give in to emotional choices that are different from their actual plans in the heat of the moment. This reversal of rational for emotional choices can be found in many instances of life, such as, for example, food choice, sports discipline and entertainment preferences. Preference reversal can be curbed with joint decisions that bundle alternatives physically and temporally closer to each other.

In the extension of behavioral economics into the finance domain, discounting theory has been fortified for now presence moments. Hyperbolic discounting holds that we all are more focused on the current moment rather than ruminating about the past or planning for the future. This tendency to focus on the now also goes together with hyperbolic discounting indicating that individuals overvalue the current state over all others as the past cannot be changed anymore and the future holds too much overall risk. Behavioral finance also educates about diversifying nudges in different behavioral approaches used concurrently to maximize outcomes. The availability of information also plays a major role in behavioral finance. As does the quality of information and the perception of the quality of information based on the

subjective evaluation of information sources. Good news and bad news but also the framing of reporting appear to be critical influences on choice patterns. Behavioral finance also applies behavioral economics insights about exposure to information in deriving inferences for market action. If there is too much information on financial markets, a market buzz and noise are created that may be harmful. Too little information in markets can freeze market action as everyone is waiting for more information cues and the others to act first. The timing of information plays a critical role in behavioral finance. Firm-biased information speaks about the close environmental impact on finance choices. Social influences and crowd phenomena are prominent topics in behavioral finance. Attributes of influential leaders in the field of finance are discussed from a psychological aspect. Social norms and social reference groups are important for financial decisions.

Traditions

Within behavioral economics, two schools emerged. The North American tradition is more renowned for having started the critique of traditional rational choice models. North American scholars drove the mathematical formalization and developed powerful and rigorous models in well-curated and ethical laboratory settings. The European school shined on theoretical contributions and historic political economy aspects in bringing in different fields and viewpoints into the critique of standard neoclassical economic hallmarks.

The North American school tried to cartograph biases and so-called heuristics – which were perceived as decision-making deviations from the optimum – in order to eradicate these behavioral failures from aspirational stylized economic model optimizations. North American behavioral economists became leaders-in-the-field of correcting human biases. The North American contribution targeted at helping people become more economic rational agents in standardized methods, such as controlled university laboratory experiments, survey studies, field experiments and online panels.

The European school was comparatively more heterodox in its rigor, allowing for many different angles of multiple fields to contribute with their own methods. European behavioral economists also took a more evolutionary stance on behavioral choices, arguing that evolutionary-grown decision shortcuts are helpful in coping with a complex world of uncertainty. Quick decision-making of humans was seen as a way to ease mental overload and an evolutionary adaption to cognitive capacity constraints. Both sides appear to have valid points solidified in theory and data.

Both approaches unite in Kahneman's (2011) thinking fast and slow decision model, which argues for wise decision makers being experts in choosing when to take time for deliberate choices and correct for biases with rational deliberation or when to jump into conclusions fast and easily. For instance, the decision of what to eat and whom to marry may take two different approaches as the long-term impact, payoff outcomes and risks involved are different as well. Those who are well-calibrated or trained to pick the right dose of rational deliberate choices and fast gut decisions attuned to the situation are believed to have overall better life outcomes (Kahneman 2011).

Evolution

The behavioral economics revolution stemmed from academics that heroically contested and rewrote economics for accuracy and predictability of the actual exhibited human behavior (Kahneman & Tversky 2000). Many different disciplines contributed to the changing of economics for reality. Behavioral economics today bundles the insights of different disciplines to describe human behavior striving for efficiency with accuracy and predictability. Nine Nobel Prizes crowned the accomplishment of those who prepared the field for a widespread behavioral economics solution: The political scientist Herbert Simon (1978) was the first to start addressing issues of traditional neoclassical economic models in applying psychological

concepts to economic choices. Economist Amartya Sen (1998) received a Nobel Prize in Economics for his work on the possibility of social choice that prepared the theoretical and formalized critique of rational choice theory integrating social aspects. Sociologist George Akerlof (2001) captured behavioral finance and crowd behavior in imperfect markets. Behavioral economists Daniel Kahneman and Vernon L. Smith (2002) started the field 'behavioral economics' with powerful evidence from laboratory experiments that proved human choice patterns deviate from rational choice models. Political scientist Elinor Ostrom (2009) outlined the impact of collective decision-making in groups for the governing of global commons. Behavioral finance was acknowledged with a Nobel Prize in 2013, when Robert Shiller, Eugene Fama and Lars Peter Hansen were accoladed for their work about why markets are not efficient (Nobel Prize 2013). Richard Thaler (2017) enlightened the field with insights on mental discounting and how to change behavior in 'nudges' – subliminal hints to help people make more rational and wise choices over time. In their entirety, all Behavioral Economics-attributed Nobel prizes rewrote economics. No other economics field has gotten as many Nobel prizes as behavioral economics. Pursuing a goal to find ways to 'nudge' individuals, communities and – most recently – leaders was meant to help others make better choices by the guidance of behavioral insights (Akerlof 2001; Kahneman 2008; Nobel Prize 2002; Ostrom 2009; Puaschunder 2020; Thaler 2017; Thaler & Sunstein 2008).

As for the evaluation of the overall field of behavioral economics, one has to admit that the field is rather young. It is too early to tell how influential the ideas will become over time and how lasting the effects will change a multitude of human behavioral patterns and therefore society. From around 2010 on, critique of the behavioral approach mainly concerned the method. Small-scale laboratory experiments on university campuses were scrutinized. The term 'p-hacking' was coined to address data falsification through omission and methodological tweaks to get conditions running in the expected way. Some of the biggest names in the field and rising stars in behavioral science became entangled in the so-called replication crisis – addressing problems of replicating well-covered behavioral science effects. The largess of these scandals has potentially triggered a widespread shift and change in the field that will transform behavioral economics as never practiced before.

The future of Behavioral Economics

Future trends in behavioral economics are prospected to be driven by the popularity of the field, replication crises in behavioral sciences as well as the advent of digitalized markets.

Libertarian paternalism is dead for educated, self-determined decision-makers

First, given the enormous popularity behavioral economics has enjoyed in the most recent decades, a general knowledge has formed about behavioral nudges. Libertarian paternalism is – by now – limited when it comes to implicitly tricking people into making choices based on well-known insights. A common body of knowledge on behavioral aspects of choice patterns may lead to reactance if people notice manipulation. People may want to refrain from being changed with nudges, just for the sake of maintaining their own decision-making volition. A similar effect has been proven in advertisement studies before. Once people notice that this is a commercial and especially when the commercial is kind of annoying, people *per se* refrain from behaving the way as wished for by the advertiser. Just for the sake of maintaining their own decision-making power and free will, they will digress from what the advertisement company targets them to do. This is also why concepts like product placement – the content-pegged weaving in of commercials into films and shows – has become prominent as an alternative way to advertise. Similarly, neurolinguistic programming evolved. First, neurolinguistic programming was inspired by psychiatrists who found that when aligning the body with their client or mirroring the body posture this could help establish accord and better

therapy outcomes. Neurolinguistic programming was then used to manipulate positive outcomes of negotiations. For instance, in job interviews or salary negotiations the strategic alignment of the body with the interviewer or the negotiation sparring partner was recommended for a while. Once the effect became known more broadly, however, people refrained from being compliant or showing extraordinary accord levels. It is assumed that the feeling of manipulation around neurolinguistic programming may have created some reactance, which then led to worse outcomes than without neurolinguistic programming. In many settings and instances, therefore, today neurolinguistic alignment of body postures is not recommended anymore. Behavioral economics is assumed to have a similar evolution from being a powerful implicit manipulation to becoming too mainstream to drive behavior effectively if people perceive it as an infringement on their own volition and degrading their decision-making power and free choice authority.

The general population should therefore be trained to make self-empowered choices that meet their individual principles, needs and wants based on their behavioral expertise. Behavioral economists should move from manipulating nudges to encouraging, educating and training the layperson to make their own decisions while being knowledgeable about heuristics and conscientious about the decision-making depths and breadth requirement of the situation.

Replication crisis triggering empowered decision-makers backtesting of behavioral insights

Second, the field of behavioral sciences has experienced a deep replication crisis given major data cheating scandals and contemporary fraud allegations. Starting with the early 2010s, self-correction mechanisms in science, like rerunning behavioral economic experiments, surveys and field studies, contested the state-of-the-art data collection and generated behavioral economics results. The replication crisis in behavioral sciences addresses detected data fraud but also calls out so-called 'p-hacking' in the strategic manipulation of research design, sampling and methods for obtaining personally favorable, desired results in line with one's own hypothesis. Fraud and data manipulation scandals shook the field of behavioral sciences. Not only the questionable rigor of studies and self-serving biases corrupting results but also the persistence in making arguments counter-running data results became subject to a wide critique and international media scrutiny in behavioral economics. Scandals and manipulation led to ridicule and disapproval in the public perception of behavioral science approaches. The most recent data fraud allegation has triggered a task force of over 150 scholars trying to find ways to avert the negative downfalls of behavioral economics rebel talents that trigger replication crises. In addition, the international media coverage of a current data fraud allegation in behavioral sciences has also steered an almost 3000 donors' strong community that stands for academic freedom on data replication and scientific debate about research design and sample acquisition.

In the wake of all these developments, currently developing general oversight mechanisms include checks-and-balances between co-authors sharing data and self-correcting academic freedom protection. Among researchers clear guidelines should be established on how to run behavioral experiments and surveys. Data checks could be enacted via mandatory pre-registration of studies and access to data mandates. The role of data sharing inbetween co-authors should be generalized and clear structures established. Researchers could collaborate on blind retest endeavors to rerun studies before being published. The general population should be encouraged to question behavioral insights and backtest results for their external validity. Education could verse people to be critical of behavioral insights presented to them and backtest the validity of findings. Behavioral economists should be trained to feedback on the non-applicability of p-hacked results. Replication studies deserve more attention and accolades as self-correcting measures within the community. Whistleblower protection of individuals calling out data fraud can improve the validity of concepts in behavioral economics. Databases could organize backtested results and speed up fraud detection in an organized way.

Communication channels should be curated in order to give a voice to those who detect questionable research. Lastly, funds should be collected and set aside as a crisis and emergency protection if fraudulent research has depleted scarce resources – e.g. if governments have allocated funds towards implementing fraudulent research results – but also if the career of scientists who had the courage to speak up against unethical conduct got hit due to missing whistleblower protection.

Online searchplace discrimination of behavioral economists

In the wake of the digitalization revolution, online searchplace distortion of behavioral economics results has become a sad reality for young behavioral economists. Strategic search engine results manipulation through Search Engine Disoptimization (SEDO) has evolved a competitive market behavior by which search results displayed in Google, Bing, Yahoo and other search engines get distorted in favor of only some star behavioral economists. This implicit internet harassment calls for a democratization of information and whole-rounded inclusion of thoughts online. Strategic searchplace distortion causes a one-sided overemphasis of some ideas that crowds out fair competition and – above all – inspiring scientific dialogue that lives off diversification and creativity. Science can only advance in the discourse and the youthful stimulation of new ideas. Innovation is infringed upon if only an oligopolistic mirage is created online that does not give credit to young upcoming behavioral economists.

Behavioral economists should raise awareness of this trend and work together with global governance institutions, regulatory bodies but also industry professionals to curb negative internet search engine manipulation. The upcoming generation of behavioral economics should be encouraged by their direct mentors and networks to speak up when they suspect searchplace distortion. Professional bodies should be informed to help those whose career has been hit by competitive internet manipulation. Professional associations should include online manipulation in their repertories and databases about harassment in order to detect pockets of viral distortions within academia and call out academic units that engage in such unethical action. Setting aside funds to help academics whose career has taken a hit due to online search content manipulation is another way to curb this harmful behavior and protect from the negative consequences of this rebel competition. Igniting public discourse on this sensitive matter may help crowd out the downsides of internet competitive behavior. All these measures are meant to lead to a democratization of information and the inclusion of thoughts in behavioral economics.

Discussion

All these trends are speculated to lead to a revamped behavioral economics revolution that demands behavioral economics for all. In their entirety these trends are assumed to herald a major shift in behavioral science conduct. The future of behavioral economics is believed to lie in self-empowered leadership, not manipulation. A democratization of behavioral economics information leading to a general knowledge basis on actual behavioral patterns will guide a self-empowered decision-making cadre within the general population. After all, a renaissance of behavioral economics can live from a noble search for truth. The anticipated and recommended changes implemented promise the potential to lift the entire field to a more helpful stage to maintain a leading field of sciences. Generating more credible behavioral insights will serve behavioral economics' general acceptance as a guidepost for wise quality decision-making. The digital millennium calling for fair internet use will hopefully prosper an inclusive and diversified information on behavioral insights of the future to be even more accessible, useful and meaningful for all.

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